**IT Applications Unit 3, AOS 2, Organisations and Data Management**

**Structure and role of relational databases, p 97**

1. What is a flat file database?

A flat file database is a data base that only contains a single table.

1. Define each of the following terms:
   1. Primary key

A primary key is a field attached to each record in the database, the value of the primary key should be unique in each record of in the database (an example of a primary key is a number that uniquely identifies each record)

* 1. Field

Each column contains a field; a field is a specific piece of information.

* 1. Record

Each row in a table contains a record; a record is a set of information about one entity (a person, event or object).

* 1. Form

A form allows the input screen to be formatted and linked to any underlying table or query.

* 1. Query

A query is used to filter a set of data (an example of a query would be finding all the students that lived in St. Arnaud from a database containing all students in the IT class); the information gained from a query is generally put into a report.

* 1. Report

A report formats the query data and allows you to add in summary statistics, such as totals and headings to make the information easier to read and understand.

* 1. Macros

Procedures in a database can be automated through the use of macros. When a macro is run it will carry out a set of permitted tasks.

**Data types and formats**

1. List the following **data types** and characteristics of each with examples.
   1. Text, (string) String data types include a series of symbols or values, such as a character string (a sequence of characters) or a binary string ( a sequence of binary values. An example of a text field is name.
   2. Numeric, numeric fields are used only when you are using a number that needs to have a calculation performed on it.
   3. Currency and date/time are both variations of numbers or numeric data.
   4. Boolean, this type of data is used when a simple Yes/No or True/False state is required.
   5. Object, this data type refers to a document or media file that is stored in a database rather than pure data.
   6. Memo, this data type is applied when large amounts of text need to be stored in a database.
2. **Data Formats:**

Elaborate on the following common data formats:

* 1. Text

Each text field will be formatted to hold a different number of characters. For example the name field may be formatted to hold 25 characters whereas the postcode field may only hold 4 characters.

* 1. fixed decimal places

Certain numeric values, (such as dollars and cents) need to be formatted with fixed decimal places when rounding occurs. These decimal places will appear even for whole numbers e.g. 5.00.

* 1. Date

Dates can be displayed in different ways, for example 23/03/11 or 23-Mar-11, this is the preferred version.

* 1. Date/time

This is a variation of date where you can show the time to minutes and seconds if necessary. This can be done using a 12 or 24-hour clock.

* 1. Dollar, currency

When displaying currency the $ symbol needs to be used and the decimal places default to .00 after the value.

* 1. True/false, Boolean logic

This can be displayed as words (Yes/No or True/False), or as check or tick boxes, this version makes data entry easier.

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